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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/722,731

11/25/2003

Lenny Lipton

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01/27/2005

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EXAMINER

CHANG, AUDREY Y

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/722,731	Applicant(s) LIPTON ET AL.	
	Examiner Audrey Y. Chang	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 August 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Remark*

- This Office Action is in response to applicant's preliminary amendment filed on August 30, 2004, which has been entered into the file.
- By this amendment, the applicant has newly added claims 2-7.
- Claims 1-7 remain pending in this application.

### *Claim Objections*

**1. Claims 1-7 are objected to because of the following informalities:**

(1). Claims 1 and 2 recite a "lenticular antireflection screen" yet the claims fail to provide any *means* for making the screen "antireflective". This "antireflection" property therefore is treated as *inherent property* of the lenticular lens.

(2). The phrase "the lenticules are disposed on the lens sheet at an angle other than 90 degree relative to a horizontal edges" recited in claims 1 and 2 is confusing since it is not clear if this *angle* means the angle of the lenticules, (i.e. the curved surface of the lenticules) or the *axis* of the lenticules making with related to the horizontal edge. Similarly the phrase "the angle of the lenticules" recited in claim 5 is confusing and indefinite since it is not clear what is this angle measured with or defined with respect to.

**Appropriate correction is required.**

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Stewart (PN.4,804,253).**

Stewart teaches an *image display device* (21, Figure 5), that is comprised of an *image display* (22) having a *display surface*, and a *lens sheet* (24, Figure 5) coupled to the display surface wherein the lens sheet having a *plurality of lenticules* disposed thereon. The plurality of lenticules is formed of a plurality of *cylindrical lenses* whose longitudinal axes are parallel to each other and *angularly disposed* (*i.e. other than a 90 degree*) with respect to both the horizontal and vertical axes or edges of the image display as well as the lens sheet, (please see Figure 5 and column 5, lines 10-30).

With regard to claim 2, Stewart teaches that the lens sheet has a front surface (with the lenticules) and a rear surface wherein the rear surface is arranged in juxtaposition with respect to the image display. Stewart teaches that the image display is either a *liquid crystal display* (LCD) or a *cathode ray tube* (CRT) which are both of electronic image display, (please see column 5 and column 6, lines 24-27).

With regard to the feature concerning “lenticular antireflection display” and “lenticular antireflection screen” since the claims fail to provide the *means* for providing the antireflection property, the “antireflection” property therefore is considered as the *inherent* property of the lens sheet with a plurality of lenticules, and is met by the disclosure of Stewart.

With regard to claim 6, it is implicitly true that the lens sheet has a thickness that is proportional to a pitch of the lenticules.

**This reference has therefore anticipated the claims.**

**3. Claims 2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by the patent issued to Magee (PN. 5,933,276).**

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Magee teaches a *lenticular screen* (Figure 5) that can be used as *computer display screen*, (please see column 1, line 30), wherein the lenticular screen is comprised of a *lens sheet* coupled to a display surface of the computer display and the lens sheet has a *plurality of lenticules* (153 and 161) disposed thereon. The plurality of lenticules, which is of spherical or ellipsoidal shape in nature is making an angle that is other than 90 degree with respect to the horizontal edges of the lens sheet, (since one can arbitrary defined an *axis* for the spherical or ellipsoidal lens and makes it oriented to the horizontal edge not at 90 degree). The lens sheet has a front lens surface (153) which is a convex lens and a rear surface (161) which is a *concave* lens wherein the rear surface is arranged in juxtaposition, (i.e. side by side), with respect to the computer display. It is implicitly true that a computer display is an *electronic* display, (please see column 1 and line 30). With regard to claim 7, the rear surface of the lens sheet (161) has a *concave* shapes which implicitly has *negative* optical power, (please see the demonstration of divergence of a concave lens in Figure 1B).

**This reference has therefore anticipated the claims.**

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Stewart.**

The lenticular antireflection screen for an electronic display taught by Stewart as described for claim 2 above has met all the limitations of the claims.

With regard to claim 3, Stewart teaches that the lenticular lens sheet (24) is separated from the electronic image display (22) by a space formed by a faceplate (23) but does not teach explicitly that the space is an air space. However Stewart does teach explicitly that the space separation could be formed by any material as depicted in Figure 1, wherein the space is formed by any material with an index of refraction  $n$ . It would then have been obvious to one skilled in the art to modify the arrangement with an air space (index of refraction of 1) set between the image display and the lens sheet for the benefit of reducing the cost of the manufacture.

With regard to claim 4, Stewart teaches that the electronic display has pixels, (i.e. liquid crystal cells), and as shown in Figure 1, the lens sheet has a focal length that will form *collimated* image light from the pixels. Although this reference does not teach explicitly that the focal length of the lens sheet or the lenticules *focus* the image at or near the pixels, however it is very well known in the art of geometric optics that when the pixels are placed at focal length of the lenticules, the image light from the pixels will be *collimated* by the lenticules and this corresponds to *focus* the image light by the lenticules at the pixels. It would then have been obvious to one skilled in the art to modify the arrangement of the lenticular lens sheet and the image display to make the focal length and the separation of the two satisfies the “focusing” situation yet still conveys *collimated image light* from the pixels to the viewer, for the benefit of reducing the size of the image display device with the lenticular lens sheet.

With regard to claim 5, Stewart teaches that the angular disposition of the lenticules is determined by the physical dimension of the pixels of the image display to obtain the optimum condition, (please see column 5, lines 22-25). However this reference does not teach explicitly that the angular disposition is achieved by rotating the lens sheet. But it would have been obvious to one skilled in the art to achieve the angular disposition of the lenticular lens sheet by simply rotating the lens sheet for this is the most obvious manner and most economical manner to achieve such angular disposition.

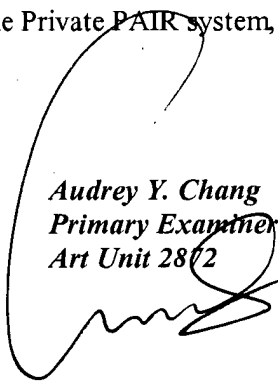
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Audrey Y. Chang*  
*Primary Examiner*  
*Art Unit 2872*



A. Chang, Ph.D.